

# The Research Connection



**W**hat comes to mind when you think about agricultural research? Increasing crop yields and fighting pesky insects? For sure. But ag research is more than that. In fact, it's wired right into your daily life—to the food you eat, the clothes you wear, and the water you drink.

Some of ag research's successes are now legendary—like mass production of penicillin or development of the technologies for wrinkle-free cotton and high-quality frozen vegetables.

## What's in It for Me?

Agricultural research affects your everyday life—in little ways and in big. Here are a few examples:

- Grapes—without seeds
- Zany designs on cotton T-shirts
- Crayons made from soybeans
- Turkey with lots of white meat
- Lower fat cheese on your school lunch pizza
- Crisp, tasty apples year round
- Delicious, healthful, affordable food for your family



## Your Family's Tax Dollars at Work

The Agricultural Research Service (ARS) is the U.S. Department of Agriculture's chief research agency. In fact, it's the largest agricultural research organization in the world, with over 100 locations. ARS works to ensure a safe, plentiful, nutritious food supply, support agricultural production, and preserve the environment.

Every day you can find new highlights in ARS research at [www.ars.usda.gov/news](http://www.ars.usda.gov/news).

## Careers in Ag Research

Many types of scientists are involved in agricultural research—chemists, entomologists, plant pathologists, nutritionists, geneticists, microbiologists, agronomists, engineers, just to name a few!

Have you ever thought about a career in ag research? Many challenges and opportunities await you!

Summer and student employment opportunities are available in many ARS locations. Visit the ARS Careers website ([www.ars.usda.gov/careers](http://www.ars.usda.gov/careers)) for information on how to apply.

## Ag Research at Your Fingertips

Stay on top of innovation and discovery in agricultural science. Go to [www.ars.usda.gov](http://www.ars.usda.gov).

## Research AG-tivities



Includes ideas for all levels. For helpful information related to these topics, see Science for Kids, *Agricultural Research* magazine and other ARS publications, and our search engine at [www.ars.usda.gov/news](http://www.ars.usda.gov/news).

- Color the Science for Kids coloring page (under “**COLOR ME COOL**”). Name some different areas of research shown on the page.
- Read several Science for Kids stories. Which stories interest you most?
- Find three examples of how agricultural research scientists are solving everyday problems.
- Learn about the different careers in agricultural research under Science for Kids. Take the “Who Am I?” quiz (under “**THIS AND THATS**”). What areas do you find most interesting?
- Use your library to find what universities have programs in your areas of interest.
- Develop an agricultural research-oriented activity that fits into a class like social studies or math.
- Plan an agricultural research-related project for your school’s science fair.
- Develop an agricultural careers booklet for your school’s career day.
- Find three Ag Research magazine articles in the area of your interest. What problems are solved?
- See the map at [www.ars.usda.gov/pandp/places.htm](http://www.ars.usda.gov/pandp/places.htm) to find the ARS lab nearest you. What type of research is done there?
- Interview a scientist working in agricultural research. Write a career profile for your school newspaper.
- Plan a classroom program on grains for your local elementary school. Include a hands-on activity.
- Compare the calories, fat, and sodium in several snack foods. Tell how nutrient data relates to agricultural research.
- Develop a role-play activity for young children to learn about agricultural research.
- Pretend you are in charge of a teacher workshop on agricultural research. Outline what topics to include.
- Name three of research’s most important contributions to agricultural science.
- List the major agricultural commodities in your State. How has research improved them over the years?
- Plan a meal using foods from each group in the USDA’s MyPyramid. Tell how research has affected the production, processing, or marketing of each food.

# Research AG-tivities



- Pair up with a classmate and talk about composting as a method of recycling. Why compost? What materials and methods are used?
- Identify major diseases that threaten livestock in this country and abroad. What are research scientists doing to control these diseases?
- Name several agricultural issues that affect the environment. How are agricultural scientists dealing with them? How would YOU deal with them?
- Pretend you're being interviewed by your State's agricultural radio station. Tell what you see as the most important issues facing agriculture today. How can ag research scientists help solve these problems?
- Define "whey." How is this agricultural byproduct being used?
- Invent a useful product from an agricultural waste product. Ideas: chicken feathers, corn starch, or whey from milk processing.
- Read up on diseases that threaten our country's wheat crop. How have agricultural scientists addressed this problem?
- Describe how and why livestock diets have changed over the years.
- Find three things scientists are doing to make food healthier.
- Write a 500-word essay on how agricultural research affects your daily life.
- Plan an exhibit showing 10 products from the food and fiber system. Describe the role of research in each product.
- Look in your area's newspaper and find a story that highlights agricultural research. Report on it to your class.
- Define "phytonutrient." What issues are researchers dealing with in this area?
- Name a variety of food and nonfood products containing soybean components. Bring them in and share them with the class.
- Develop a flowchart showing the steps in cotton processing.
- Pick one or two of your State's crops. Outline the steps from farm to table, including research.
- Trace migration of the Africanized honey bee from South America into the United States. How does this migration affect U.S. agriculture?
- Prepare an oral report on biotechnology. Include some of its most notable accomplishments and its implications for the future.
- Plan an Earth Day exhibit to show how agricultural research helps the environment.

## Research AG-tivities



- Plan a poster contest that encourages students to think about the research behind production of their food and clothes.
- Outline the contents of a monthly newsletter on agricultural research.
- Discuss the environmental impact of pesticide use. What have scientists done to deal with this issue?
- Design a handout on the importance of agricultural research for your State or county fair.
- Look through a nursery catalog. Make a scrapbook featuring recently introduced woody and herbaceous plants. Identify new traits developed through hybridization and selection.
- Study up on integrated pest management (IPM). Develop an IPM plan for your home garden.
- Surf the ARS web site. Develop a glossary of terms you're not familiar with.
- Design a classroom experiment comparing the biodegradability of packing "peanuts" made from corn starch to those made from Styrofoam. Identify other products containing cornstarch.
- Write a report on biodiesel fuel, explaining how scientists are using an agricultural crop to help the environment.
- Choose an important area of animal research for a term paper. Ideas: disease resistance, reproductive efficiency, desirable lean-to-fat ratio in meat, feed efficiency, meat quality, waste management, production costs, food safety.
- Identify important issues involving soil erosion, waste disposal, and water management.
- Plan an exhibit on precision farming. Display it at your county or State fair.
- Identify several surplus agricultural commodities. What new uses and markets for these products have been established to help improve farm income?